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REMARKS/ARGUMENTS

The Applicants appreciate the careful examination the Examiner has given to this application and believe the claims as amended will satisfy the Examiner's concerns.

Claim 1 has been amended.

In Paragraph 1 under the heading "Response to Amendment" of the Detailed Action, the Examiner notes that the response filed October 20, 2006 was not fully responsive to the rejections raised in the Detailed Action mailed on July 5, 2005 (the Previous Action) because no arguments with respect to the art of record were provided. The prior art rejections of the Previous Action are raised once again in the present Detail Action, and are addressed herein below.

Double Patenting

In Paragraph 4 under the heading "Double patenting" of the Detailed Action, the Examiner has provisionally rejected claims 1 to 30 under 35 U.S.C. 101 as claiming the same invention as that of claims 1 to 30 of copending Application Number 10/263,959 (the copending Application).

Accordingly, claims of the copending Application 10/263,959 have been amended, and there are no claims in the copending Application, which are coextensive with claims 1 to 30 of the present Application.

The Examiner is respectfully requested to reconsider and withdraw the 35 U.S.C. 101 provisional rejection of claims 1 to 30.

The presence of the form paragraph in Paragraph 5 under the heading "Double patenting" of the Detailed Action is

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not understood. In particular, the form paragraph refers to nonstatutory double patenting. However, no nonstatutory double patenting objection has been formally raised by the Examiner in the Detailed Action. The examiner's attention is also drawn to the fact that the a number of terminal disclaimers was filed with regard to this application and related copending application earlier.

Claim Rejections - 35 USC §103

In Paragraph 2 of the "Claim Rejections - 35 USC §103" section of the Detailed Action, the Examiner has rejected claims 1, 2, 3, 10, 14, and 16 under 35 USC §103(a) as being unpatentable over U.S. Patent Number 5,974,094 (Fines et al.). Given below is a brief discussion of the Fines et al. reference followed by a discussion on how claims 1, 2, 3, 10, 14, and 16 are patentable over the Fines et al. reference.

Fines et al.

"In data transmission systems, digital data is often transmitted using frequency shift keying (FSK) techniques. In m-ary FSK transmission a frequency range is divided into a number m of discrete frequency tones each representing a respective different digital value. Digital data is transmitted by transmitting on a carrier signal a tone for a predetermined period of time at the frequency corresponding to the value of the data" (see Col. 1, lines 27 to 34 of the Fines et al. reference). In mobile devices there is a Doppler shift in the frequency of a wireless signal received by the mobile devices. This makes it difficult to detect the wireless signal. Furthermore, multipath interference causes frequency smearing in the signal (see Col. 1, lines 37 to 55 of the Fines et al. reference). With reference to Fig. 9 and Col. 4, lines 4 to 16 of the Fines et al. reference, data is

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transmitted from a source by modulating a carrier with a data signal  $D_m$  at one of tones  $m$  25 to 35 and with pilot signals 36, 37. Each tone is transmitted for a fixed predetermined period of time, and  $N$  signal samples are taken over that period of time (see Col. 5, lines 36 to 43 of the Fines et al. reference). The  $N$  samples are converted into  $N$  frequency samples in the frequency domain. The pilot signals are added together and are cross-correlated with the remainder of the  $N$  frequency samples. A correlation number is produced for each of the remaining frequency samples, and the largest correlation number is selected as the frequency of the data signal  $D$  (see Fig. 9 and Col. 6, lines 33 to 36 of the Fines et al. reference). This method is therefore used to detect data in a signal.

Claim 1

Claim 1 has been amended to replace the expression "performing coherent averaging of the frequency analysis results over a plurality of frequency analysis operations" with "performing coherent averaging of the frequency analysis results from a plurality of frequency analysis operations performed over a plurality of respective time periods". Support for this amendment can be found in Paragraphs 0048, 0053, 0054, 0065, and 0066 of the present application.

The Examiner has cited the Fines et al. reference in making his 35 U.S.C. 103(a) rejection of claim 1. There are three criteria for establishing a prima facie case of obviousness: 1) all features must be present, 2) there must be an expectation of a reasonable chance of success, 3) and there must be some suggestion in the prior art to combine the references.

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Amended claim 1 is directed to a method of identifying and detecting channels in a multiplexed communications network, and recites, among other features:

"performing coherent averaging of the frequency analysis results from a plurality of frequency analysis operations performed over a plurality of respective time periods to detect dither tones of a channel having a relatively low power".

In the Fines et al. reference there is no disclosure of this claim feature. In particular, in the Fines et al. reference there are no "frequency analysis operations performed over a plurality of respective time periods to detect dither tones". Instead, only one set of FFT results are obtained over a single period of time to detect a tone. In particular, as discussed above, in the Fines et al. reference each tone is transmitted for a fixed predetermined period of time, and N signal samples are taken over that period of time (see Col. 5, lines 36 to 43 of the Fines et al. reference). The N samples are processed and converted from the time domain into a set of N complex samples in the frequency domain (see Col. 5, lines 49 to 53 of the Fines et al. reference). In this step there is only one period of time over which the N frequency samples are taken. In the next step of the method disclosed in the Fines et al. reference, the frequency samples of the two pilot signals are phase shifted and added together to purportedly give a signal with less noise (see Col. 6, lines 15 to 21 of the Fines et al. reference). Again, there is no "performing coherent averaging of the frequency analysis results from a plurality of frequency analysis operations performed over a plurality of respective time periods" since the frequency samples of the two pilot signals are obtained from samples within the same

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time period (see Col. 5, lines 36 to 43 of the Fines et al. reference). In the Fines et al. reference the "summed pilot signals are cross-correlated with the remainder of the N frequency samples at each of the m frequencies or tones 25 to 35 in the band-width B" (see Fig. 9 and Col. 6, lines 29 to 33 of the Fines et al. reference). The cross-correlation involves a calculation that uses result obtained from samples from a single time period, and, again there is no disclosure of the above claim feature. Finally, in the Fines et al. reference once "a correlation number is produced for each frequency 25 to 35, the frequency having the largest correlation number is selected as the frequency of the data signal D" (see Fig. 9 and Col. 6, lines 33 to 36 of the Fines et al. reference), and again there is no disclosure of the above claim feature.

As such, at least one claim feature of claim 1 is not disclosed in the Fines et al. reference, and requirement 1) for a prima facie case of obviousness cannot be satisfied.

Regarding requirement 3) for a prima facie case of obviousness, as discussed above claim 1 is directed to a "method of identifying and detecting channels in a multiplexed communications network" (emphasis added on the underlined portion). On the other hand, the Fines et al. reference discloses an FSK transmission scheme in which a data signal is modulated on a carrier for a fixed predetermined period of time with one or more pilot signals. The data is detected by calculating a cross-correlation function between frequency samples from the data signal and the pilot signal. This is a data detection scheme and not a "method of identifying and detecting channels in a multiplexed communications network". Furthermore, the method employed in the Fines et al. reference is used to purportedly mitigate Doppler and multipath effects

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in mobile systems. As such, the Fines et al. reference is directed to solving a problem which has nothing to do with channel detection, and there is no suggestion or motivation in the Fines et al. reference for suggesting "performing coherent averaging of the frequency analysis results from a plurality of frequency analysis operations performed over a plurality of respective time periods to detect dither tones of a channel having a relatively low power" as claimed in claim 1.

At least two requirements for a prima facie case of obviousness are not satisfied. The Examiner is respectfully requested to reconsider and withdraw the 35 U.S.C. 103(a) rejection of claim 1.

Claims 2 and 3

Each one of claims 2 and 3 depends directly or indirectly on claim 1 and should be allowed for the same reasons as discussed above with reference to claim 1. The Examiner is respectfully requested to reconsider and withdraw the 35 U.S.C. 103(a) rejection of claims 2 and 3.

Claim 10

Claim 10 depends on claim 1 and should be allowed for the same reasons as discussed above with reference to claim 1. Furthermore, claim 10 recites the additional feature:

"wherein the step of modulating each channel to be identified with a respective combination of at least two continuous dither tones comprises modulating each channel with a respective one of at least three continuous dither tones with a cyclic repetition and a predetermined periodicity".

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The examiner has not addressed this claim feature in the Detailed Action, and Applicants submit that this feature is not disclosed in the Fines et al. reference. As such, for this additional reason the features claim 10 are not all disclosed in the Fines et al. reference.

The Examiner is respectfully requested to reconsider and withdraw the 35 U.S.C. 103(a) rejection of claim 10.

Claim 14

Claim 14 depends indirectly on claim 1 and should be allowed for the same reasons as discussed above with reference to claim 1. Furthermore, claim 14 should be allowed for the same reasons discussed above with reference to claim 10.

The Examiner is respectfully requested to reconsider and withdraw the 35 U.S.C. 103(a) rejection of claim 10.

Claim 16

Claim 16 is directed to a method of identifying optical channels in an optical WDM network, and recites, among other features:

"intensity modulating each of a plurality of optical channels to be identified with a respective selection of at least two of said dither tones in a cyclically repeated sequence and with a predetermined periodicity" (Emphasis added on the underlined portion).

The Examiner has not identified this feature in the Fines et al. reference, and Applicant submits that this claim feature is not disclosed in the Fines et al. reference. In particular, as discussed above the Fines et al. reference discloses a FSK transmission scheme where a frequency range is divided into a number  $m$  of discrete frequency tones each

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representing a respective different digital value. Digital data is transmitted by transmitting on a carrier signal a tone for a fixed predetermined period of time at the frequency corresponding to the value of the data. However, there is no disclosure of the tones being intensity modulated "in a cyclically repeated sequence and with a predetermined periodicity". In addition, as discussed above the Fines et al. reference discloses pilots signals modulated on the carrier. However, there is no disclosure of the pilot signals being intensity modulated "in a cyclically repeated sequence and with a predetermined periodicity".

Thus, the claim features of claim 16 are not all disclosed by the Fines et al. reference, and requirement 1) for a prima facie case of obviousness cannot be satisfied.

Regarding requirement 3) for a prima facie case of obviousness, the Fines et al. reference teaches away from "intensity modulating each of a plurality of optical channels to be identified with a respective selection of at least two of said dither tones in a cyclically repeated sequence and with a predetermined periodicity" (Emphasis added on the underlined portions). In particular, although the Fines et al. reference teaches "a signal 5 having a known tone 8, 11 at every third tone (see Fig. 6 and Col. 2, lines 6 to 8 of the Fines et al. reference), the Fines et al. reference teaches away from this type of transmission as it causes overhead in the transmission (see Col. 2, lines 7 to 17 of the Fines et al. reference).

Furthermore, as discussed above claim 16 is directed to a "method of identifying optical channels in an optical WDM network" (emphasis added on the underlined portion). On the other hand, the Fines et al. reference discloses an FSK transmission scheme in which a data signal is modulated on a



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carrier for a fixed predetermined period of time with one or more pilot signal. The data is detected by calculating a cross-correlation function between frequency samples from the data signal and the pilot signal. This is a data detection scheme and not a "method of identifying optical channels". Furthermore, as discussed above with reference to claim 1, the method employed in the Fines et al. reference is used to purportedly mitigate Doppler and multipath effects in mobile systems. This has nothing to do with identifying optical channels, and there is no suggestion or motivation in the prior art to combine the cited references to produce the desired result of the invention as claimed in claim 16.

Thus, requirement 3) for a prima facie case of obviousness cannot be satisfied.

At least two requirements for a prima facie case of obviousness are not satisfied. The Examiner is respectfully requested to reconsider and withdraw the 35 U.S.C. 103(a) rejection of claim 16.

#### Claim 4

In Paragraph 3 of the "Claim Rejections - 35 USC §103" section of the Detailed Action, the Examiner has rejected claim 4 under 35 USC §103(a) as being unpatentable over the Fines et al. reference in view of U.S. Patent Number 6,078,412 (Fuse et al.).

Claim 4 depends indirectly on claim 1 and should be allowed for the same reasons as discussed above with reference to claim 1. In particular, the Fines et al. reference fails to disclose all of the features of claim 1, and Applicants submit that the Fuse et al. reference also fails to disclose the features of claim 1 that the Fines et al. reference fails

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to disclose. As such, requirement 1) for a prima facia case of obviousness cannot be satisfied.

Requirement 3) for a prima facia case of obviousness is also not satisfied for the same reasons as discussed above with reference to claim 1. In particular, while claim 4 (see base claim 1) is directed to a method "method of identifying and detecting channels in a multiplexed communications network", the Fines et al. reference is directed to solving a problem which has nothing to do with channel detection. Furthermore, the Fuse et al. reference discloses an optical transmission system and apparatus for purportedly minimizing the effect of irregularities of transmission characteristics in an entire transmission band, and to purportedly avoid differences in signal quality among channels. The cited references attempt to solve two completely different problems that have nothing to do with identifying and detecting channels in a multiplexed communications network. As such, there can be no suggestion or motivation in the cited references to combine the cited references to produce the desired result of the invention as claimed in claim 4.

At least two requirements for a prima facia case of obviousness are not satisfied. The Examiner is respectfully requested to reconsider and withdraw the 35 U.S.C. 103(a) rejection of claim 4.

In Paragraph 4 of the "Claim Rejections - 35 USC §103 section" of the Detailed Action, the Examiner has rejected claims 11 and 15 under 35 USC §103(a) as being unpatentable over the Fines et al. reference in view of Hill, G.R. et al., "A Transport Network Layer Based on Optical Network Elements", Journal of Lightwave Technology, IEEE, New York, USA, Vol. II, no. 5/6, 1 May 1993, pp. 667-676 (Hill et al.).

19 September 2006 10/067.74819TR-074-CIPClaim 11

Claim 11 depends on claim 1 and should be allowed for the same reasons as discussed above with reference to claim 1. In particular, the Fines et al. reference fails to disclose all of the features of claim 1, and Applicants submit that the Hill et al. reference also fails to disclose the features of claim 1 that the Fines et al. reference fails to disclose. As such, requirement 1) for a prima facie case of obviousness cannot be satisfied.

Requirement 3) for a prima facie case of obviousness is also not satisfied for the same reasons as discussed above with reference to claim 1. In particular, while claim 11 (see base claim 1) is directed to a "method of identifying and detecting channels in a multiplexed communications network" the Fines et al. reference is directed to solving a problem which has nothing to do with channel detection. Furthermore, the Hill et al. reference discloses an optical transmission system that makes use of pilot tones "to supervise individual wavelength channels along the optical path" (see page 674, last Paragraph of the Hill et al. reference). The cited references attempt to solve two completely different problems. As such, there can be no suggestion or motivation in the cited references to combine the cited references to produce the desired result of the invention as claimed in claim 11.

At least two requirements for a prima facie case of obviousness are not satisfied. The Examiner is respectfully requested to reconsider and withdraw the 35 U.S.C. 103(a) rejection of claim 11.

Claim 15

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Claim 15 depends on claim 14 and should be allowed for the same reasons discussed above with reference to claim 14. In particular, the Fines et al. reference fails to disclose all of the features of claim 14, and Applicants submit that the Hill et al. reference also fails to disclose the features of claim 14 that the Fines et al. reference fails to disclose. As such, requirement 1) for a prima facie case of obviousness cannot be satisfied.

Requirement 3) for a prima facie case of obviousness is also not satisfied for the same reasons as discussed above with reference to claim 11.

At least two requirements for a prima facie case of obviousness are not satisfied. The Examiner is respectfully requested to reconsider and withdraw the 35 U.S.C. 103(a) rejection of claim 15.

In Paragraph 5 of the "Claim Rejections - 35 USC §103" section of the Detailed Action, the Examiner has rejected claims 5, 6, 12, 17 to 23, and 25 to 28 under 35 USC §103(a) as being unpatentable over the Fines et al. reference in view of U.S. Patent number 5,216,417 (Honda). Given below is brief description of the Honda reference followed by a detailed discussion on how claims 5, 6, 12, 17 to 23, and 25 to 28 are patentable over the Fines et al. and Honda references.

#### Honda

The Honda reference discloses a method and unit for displaying images having multi-tone levels on a liquid crystal display (LCD), an AC type plasma display panel (PDP), or other bi-level display devices. A number of intermediate tone levels (brightness levels) based on basic tone levels are

displayed using a Frame Modulation method that makes use of divided times and divided areas. For example, for divided areas five different tone levels are produced by sending a train  $X_a$  of 2x2 dots patterns (picture elements) to a display (see Fig. 14(a)). For divided times, one cycle of display is divided into 8 time intervals each having a respective picture element to produce a train  $X_b$  of 2x2 dots patterns (see Fig. 14(b)). This second method alone provides a total of 9 tone levels. The Frame Modulation method also makes use of dither matrices  $M$  and  $N$  (see Figs. 15(a) and 15(b)) to combine the trains  $X_a$  and  $X_b$  of Figs. 14(a) and 14(b) and produce trains  $Y_m$  and  $Y_n$  of Figs. 14(c) and 14(d), respectively. In this way 32 tone levels are obtained. Another 32 tone levels are obtained by using dither matrices  $S$  and  $T$  of Figs. 2(a) and 2(b), respectively, for a total of 64 tone levels for display. In this reference, signal trains, such as the trains  $X_a$ ,  $X_b$ ,  $Y_m$ , and  $Y_n$  for example, are referred to as tone signals because they each provide a specific tone level (brightness level). However, these signals have nothing to do with dither tones modulated on a channel.

#### Claim 5

Claim 5 depends on claims 1 and should be allowed for the same reasons discussed above with reference to claim 1. In particular, the Fines et al. reference fails to disclose all of the features of claim 1, and Applicants submit that the Honda reference also fails to disclose the features of claim 1 that the Fines et al. reference fails to disclose.

Furthermore, claim 5 recites the additional claim feature:

"wherein the step of modulating each channel to be identified with a respective combination of at least two

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continuous dither tones comprises modulating each channel alternately, with a predetermined periodicity, with the respective combination of dither tones".

As discussed above, the Honda reference has nothing to do with channels being modulated with dither tones, and therefore there can be no disclosure of "modulating each channel alternately, with a predetermined periodicity, with the respective combination of dither tones". Furthermore, the Examiner has referred to Col. 4, lines 14 to 20 of the Honda reference as disclosure of the above claim feature. With respect, this passage refers to signal trains  $X_i$  and  $X_{i+1}$ . However, as discussed above these are not dither signals modulated on a channel. Instead, they are signals used to indicate a tone level (brightness level) for display.

Thus, requirement 1) for a prima facie case of obviousness cannot be satisfied.

Requirement 3) for a prima facie case of obviousness is also not satisfied. In particular, while claim 5 (see base claim 1) is directed to a "method of identifying and detecting channels in a multiplexed communications network", the Fines et al. and Honda references are directed to solving completely different problems, which have nothing to do with each other nor with channel detection.

At least two requirements for a prima facie case of obviousness are not satisfied. The Examiner is respectfully requested to reconsider and withdraw the 35 U.S.C. 103(a) rejection of claim 5.

#### Claims 6 and 12

Claims 6 and 12 should be allowed for the same reasons as discussed above with reference to claim 5. The

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Examiner is respectfully requested to reconsider and withdraw the 35 U.S.C. 103(a) rejection of claims 6 and 12.

Claim 17

Claim 17 depends on claims 16 and should be allowed for the same reasons as discussed above with reference to claim 16. In particular, the Fines et al. reference fails to disclose all of the features of claim 1, and Applicants submit that the Honda reference also fails to disclose the features of claim 16 that the Fines et al. reference fails to disclose.

Furthermore, claim 17 recites the additional claim feature:

"wherein each optical channel to be identified is intensity modulated alternately with each of a respective two of said dither tones".

As discussed above, the Honda reference has nothing to do with channels being modulated with dither tones, and therefore there can be no disclosure of the above claim feature. Furthermore, the Examiner has referred to Col. 4, lines 14 to 20 of the Honda reference as disclosure of the above claim feature. With respect, as discussed above this passage refers to signal trains  $X_i$  and  $X_{i+1}$ , and these signal trains are not "intensity modulated alternately with each of a respective two of said dither tones".

Thus, requirement 1) for a prima facie case of obviousness cannot be satisfied.

Requirement 3) for a prima facie case of obviousness is also not satisfied for the same reasons as discussed above with reference to claim 5.

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The Examiner is respectfully requested to reconsider and withdraw the 35 U.S.C. 103(a) rejection of claim 17.

Claims 18 and 19

Each one of claim 18 and 19 depends directly or indirectly on claim 17 and should be allowed for the same reasons as discussed above with reference to claim 17. The Examiner is respectfully requested to reconsider and withdraw the 35 U.S.C. 103(a) rejection of claims 18 and 19.

Claim 20

Claim 20 depends on claims 16 and should be allowed for the same reasons as discussed above with reference to claim 16. In particular, the Fines et al. reference fails to disclose all of the features of claim 16, and Applicants submit that the Honda reference also fails to disclose the features of claim 16 that the Fines et al. reference fails to disclose.

Thus, requirement 1) for a prima facia case of obviousness cannot be satisfied.

Requirement 3) for a prima facia case of obviousness is also not satisfied for the same reasons as discussed above with reference to claim 5.

At least two requirements for a prima facia case of obviousness are not satisfied. The Examiner is respectfully requested to reconsider and withdraw the 35 U.S.C. 103(a) rejection of claim 20.

Claim 21

Claim 21 depend on claim 20 and should be allowed for the same reasons as discussed above with reference to



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claim 20. The Examiner is respectfully requested to reconsider and withdraw the 35 U.S.C. 103(a) rejection of claim 21.

Claim 22

Claim 22 is directed to a modulating arrangement, and recites, among other features:

"a selector for selecting at least two dither tones from said sources in a cyclically repeated sequence and with a predetermined periodicity;

a modulator for modulating a channel of a multiplexed communications network with the cyclically repeated sequence of dither tones from the selector".

The Examiner has referred to Col. 4, lines 14 to 20 of the Honda reference as disclosure for these claim features. With respect, as discussed above with reference to claim 5, this passage discloses signal trains  $X_i$  and  $X_{i+1}$ . However, these signal trains have nothing to do with "modulating a channel of a multiplexed communications network with the cyclically repeated sequence of dither tones from the selector".

Claim 22 also recites:

"a feedback loop for maintaining a predetermined modulation depth of the channel by the modulator".

The examiner has not identified this claim feature in any of the cited references, and Applicants submit that this claim feature is not disclosed in the cited references.

Thus, requirement 1) for a prima facie case of obviousness cannot be satisfied.

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Requirement 3) for a prima facia case of obviousness is also not satisfied for the same reasons as discussed above with reference to claim 5.

The Examiner is respectfully requested to reconsider and withdraw the 35 U.S.C. 103(a) rejection of claim 22.

Claims 23 and 25 to 28

Each one of claims 23 and 25 to 28 depends directly or indirectly on claim 22 and should be allowed for the same reasons as discussed above with reference to claim 22. The Examiner is respectfully requested to reconsider and withdraw the 35 U.S.C. 103(a) rejection of claims 23 and 25 to 28.

In Paragraph 6 of the "Claim Rejections - 35 USC §103" section of the Detailed Action, the Examiner has rejected claims 9, 13, and 29 under 35 USC §103(a) as being unpatentable over the Fines et al. and Honda references as applied to claims 6, 12, and 28, and further in view of the Hill et al. reference.

Claim 9

Claim 9 depends on claims 6 and should be allowed for the same reasons as discussed above with reference to claim 6. In particular, the Fines et al. and Honda references fail to disclose all of the features of claim 6, and Applicants submit that the Hill et al. reference also fails to disclose the features of claim 6 that the Fines et al. and Honda references fail to disclose. As such, requirement 1) for a prima facia case of obviousness cannot be satisfied.

Requirement 3) for a prima facia case of obviousness is also not satisfied for the same reasons as discussed above with reference to claim 1. In particular, while claim 9 (see

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base claim 1) is directed to a "method of identifying and detecting channels in a multiplexed communications network", the Fines et al. reference is directed to solving a problem which has nothing to do with channel detection. Furthermore, the Fines et al., Honda, and Hill et al. references disclose attempts at solving three completely different problems, and there is no suggestion or motivation in the cited references to combine the cited references to produce the desired result of the invention as claimed in claim 9.

The Examiner is respectfully requested to reconsider and withdraw the 35 U.S.C. 103(a) rejection of claim 9.

Claim 13

Claim 13 depends on claims 12 and should be allowed for the same reasons discussed above with reference to claim 12. In particular, the Fines et al. and Honda references fail to disclose all of the features of claim 12, and Applicants submit that the Hill et al. reference also fails to disclose the features of claim 12 that the Fines et al. and Honda references fail to disclose. As such, requirement 1) for a prima facie case of obviousness cannot be satisfied.

Furthermore, requirement 3) for a prima facie case of obviousness cannot be satisfied for the same reasons as discussed above with reference to claim 9.

The Examiner is respectfully requested to reconsider and withdraw the 35 U.S.C. 103(a) rejection of claim 13.

Claim 29

Claim 29 depends on claims 28 and should be allowed for the same reasons as discussed above with reference to claim 28. In particular, the Fines et al. and Honda

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references fail to disclose all of the features of claim 28, and Applicants submit that the Hill et al. reference also fails to disclose the features of claim 28 that the Fines et al. and Honda references fail to disclose. As such, requirement 1) for a prima facie case of obviousness cannot be satisfied.

Regarding requirement 3) for a prima facie case of obviousness, as discussed above the Fines et al., Honda, and Hill et al. references disclose attempts to solve three completely different problems, and there is no suggestion or motivation in the cited references to combine the cited references to produce the desired result of the invention as claimed in claim 29.

The Examiner is respectfully requested to reconsider and withdraw the 35 U.S.C. 103(a) rejection of claim 29.

#### Claim 7

In Paragraph 7 of the "Claim Rejections - 35 USC §103" section of the Detailed Action, the Examiner has rejected claim 7 under 35 USC §103(a) as being unpatentable over the Fines et al. reference in view of U.S. Patent Number 4,747,095 (Crookshanks).

Claim 7 depends on claim 1 and should be allowed for the same reasons as discussed above with reference to claim 1. In particular, the Fines et al. reference fails to disclose all of the features of claim 1, and Applicants submit that the Crookshanks reference also fails to disclose the features of claim 1 that the Fines et al. reference fails to disclose. As such, requirement 1) for a prima facie case of obviousness cannot be satisfied.

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The Examiner is respectfully requested to reconsider and withdraw the 35 U.S.C. 103(a) rejection of claim 7.

In Paragraph 8 of the "Claim Rejections - 35 USC §103" section of the Detailed Action, the Examiner has rejected claims 8, 24, and 30 under 35 USC §103(a) as being unpatentable over the Fines et al. and Honda references as applied to claims 5, 23, and 28, and in further view of the Crookshanks reference.

Claim 8

Claim 8 depends on claim 5 and should be allowed for the same reasons as discussed above with reference to claim 5. In particular, the Fines et al. and Honda references fail to disclose all of the features of claim 5, and Applicants submit that the Crookshanks reference also fails to disclose the features of claim 5 that the Fines et al. and Honda references fail to disclose.

Furthermore, claim 8 recites the additional feature:

"wherein the steps of modulating and detecting the respective dither tones are synchronized by using a global clock in the network so that the time intervals of modulating and detecting the respective dither tones have same duration and start at the instant of switching dither tone frequencies".

The Examiner has referred to Col. 12, lines 48 to 60 of the Crookshank reference as disclosure for the above claim feature. Applicants cannot find any disclosure of "dither tones are synchronized by using a global clock in the network so that the time intervals of modulating and detecting the respective dither tones have same duration and start at the

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instant of switching dither tone frequencies" (emphasis added on the underlined portion) in that passage.

The Examiner is respectfully requested to reconsider and withdraw the 35 U.S.C. 103(a) rejection of claim 8.

Claim 24

Claim 24 depends on claim 23 and should be allowed for the same reasons as discussed above with reference to claim 23. In particular, the Fines et al. and Honda references fail to disclose all of the features of claim 23, and Applicants submit that the Crookshanks reference also fails to disclose the features of claim 23 that the Fines et al. and Honda references fail to disclose.

Furthermore, claim 24 recites the additional feature:

"comprising a link to a global clock so that to provide alternate selection and switching of the dither tones at predetermined instances of time".

The Examiner has referred to Col. 12, lines 48 to 60 of the Crookshank reference as disclosure of the above claim feature. Applicants cannot find any disclosure of such a feature in that passage. In particular, there is no disclosure of a "global clock" in the passage referred to by the Examiner.

The Examiner is respectfully requested to reconsider and withdraw the 35 U.S.C. 103(a) rejection of claim 7.

Claim 30

Claim 30 depends on claim 28 and should be allowed for the same reasons as discussed above with reference to

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claim 28. In particular, the Fines et al. and Honda references fail to disclose all of the features of claim 28, and Applicants submit that the Crookshanks reference also fails to disclose the features of claim 28 that the Fines et al. and Honda references fail to disclose.

Furthermore, claim 30 recites the additional feature:

"wherein the modulating and detecting arrangements are synchronized by using same clock so that the time intervals of modulating and detecting the respective dither tones have same duration and start at the instant of switching dither tone frequencies" (emphasis added on the underlined portion).

The Examiner has referred to Col. 12, lines 48 to 60 of the Crookshank reference as disclosure for the above claim feature. Applicants cannot find any disclosure of such a feature in that passage. In particular, there is no disclosure of "the modulating and detecting arrangements are synchronized by using same clock" in the passage referred to by the Examiner.

The Examiner is respectfully requested to reconsider and withdraw the 35 U.S.C. 103(a) rejection of claim 30.

An early allowance of this application is courteously requested.

The Commissioner is hereby authorized to deduct any prescribed fees for these amendments from our Company's Deposit Account No. 501832.

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Yours truly,

Ping Wai Wan et al.

By:  \_\_\_\_\_

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